

Vitamins and Minerals in the Food Guide Pyramid: Where Are They?

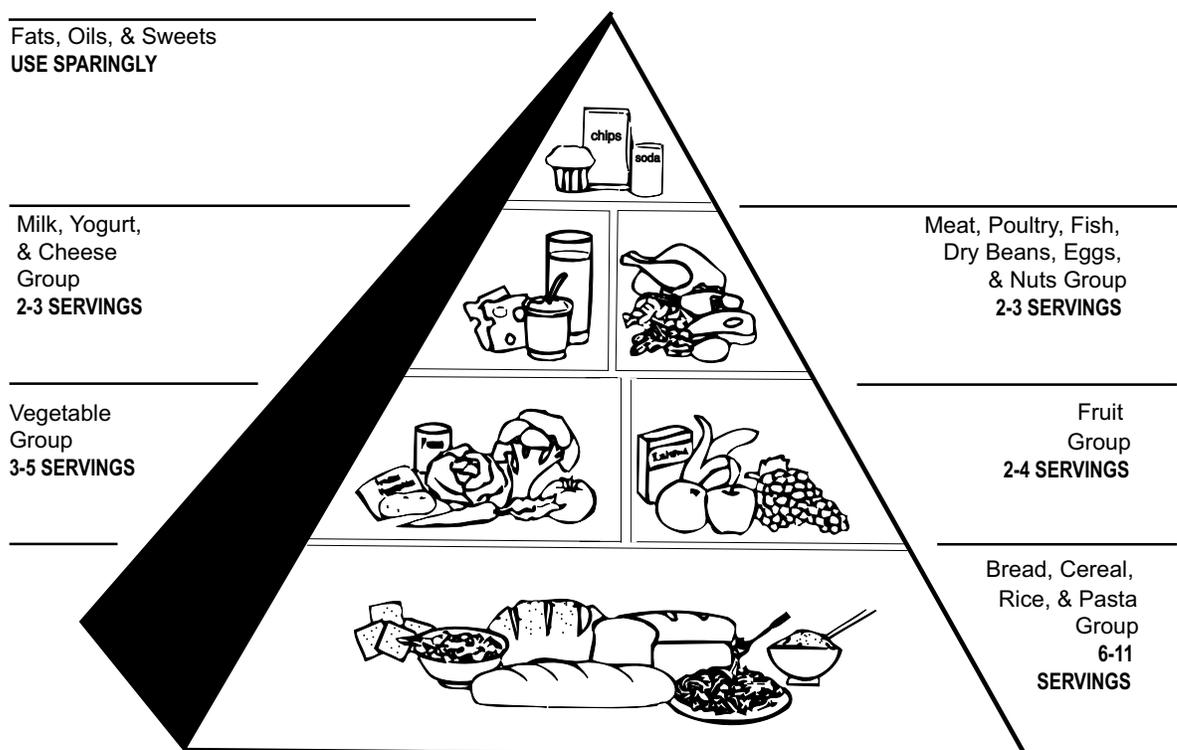


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The Food Guide Pyramid is a guide for choosing a healthful diet. Choose most of your foods from the five food groups in the main body of the pyramid, and you will provide your body with essential nutrients for healthy living. In the tip are fats, sweets, and oils, which should be eaten sparingly.

Where are vitamins and minerals within the Food Guide Pyramid? They are found on every level. Read on for more about vitamins and minerals — their functions, rich food sources, and locations within the pyramid.

Food Guide Pyramid A Guide to Daily Food Choices



Vitamins & Minerals in the Food Guide Pyramid

Where They
Are Found

Fats, Oils, & Sweets
Use Sparingly

magnesium

E

KEY

- B₁ = thiamin
- B₂ = riboflavin
- B₆ = pyridoxine
- B₁₂ = cobalamin

Milk, Yogurt, &
Cheese Group
2-3 Servings

calcium,
iodine,
potassium

A, B₂, B₁₂, D

calcium,
chromium,
copper, iodine,
iron, magnesium,
potassium, selenium,
zinc

A, B₁, B₂, B₆, B₁₂, E,
folate, K, niacin

Meat, Poultry,
Fish, Dry Beans,
Eggs, & Nuts Group
2-3 Servings

Vegetable
Group
3-5 Servings

calcium,
iodine, iron,
magnesium, potassium

A, C, folate, K

iron,
potassium

A, B₆, C, folate

Fruit Group
2-4 Servings

chromium, copper, iodine, iron, magnesium, potassium, selenium, zinc

B₁, B₂, B₆, E, folate, K, niacin

Bread, Cereal, Rice, & Pasta Group
6-11 Servings

Nutrients Perform Many Functions in the Body

Vitamin	Function
Fat-soluble	
A	vision reproduction growth promotes healthy skin resistance to infection prevents night blindness
D	strong bones and teeth
E	antioxidant
K	needed for blood clotting
Water-soluble	
C	antioxidant wound healing strong bones and teeth iron absorption from foods
thiamin	nervous system function use of fuels for energy
riboflavin	healthy skin and eyes energy metabolism
niacin	healthy skin nervous system function energy metabolism
pyridoxine	protein metabolism blood cell production
cobalamin	blood cell production nervous system function re-use of folate
folate	blood cell production resistance to infection growth

Mineral	Function
calcium	strong bones and teeth blood clotting nervous system, heart, and muscle function
chromium	insulin function
copper	oxygen transport and use connective tissue health
iodine	thyroid function
iron	oxygen transport and use energy metabolism prevents iron-deficiency anemia
magnesium	protein synthesis energy metabolism nerve and muscle contractions
potassium	heart muscle contractions fluid balance nerve transmission
selenium	antioxidant
zinc	wound healing growth taste acuity resistance to infection

Sources of Vitamins in the Food Guide Pyramid

Fats, Oils, & Sweets
Use Sparingly

E - sunflower oil,
safflower oil,
cottonseed oil

KEY

B₁ = thiamin
B₂ = riboflavin
B₆ = pyridoxine
B₁₂ = cobalamin

Milk, Yogurt, &
Cheese Group
2-3 Servings

A - fortified milk
B₂ - milk, cheese
B₁₂ - milk,
milk products
D - fortified milk

A - liver, eggs
B₁ - legumes,
beef liver, pork
B₂ - poultry, organ meat
B₆ - chickpeas, fish,
poultry, meat
B₁₂ - meat, eggs, fish
E - nuts, seeds
Folate - legumes, liver
K - liver, soybeans
Niacin - poultry, fish, meat

Meat, Poultry,
Fish, Dry Beans,
Eggs, & Nuts Group
2-3 Servings

Vegetable
Group
3-5 Servings

A - carrots, sweet potatoes,
leafy greens
C - broccoli, tomatoes,
sweet peppers, potatoes,
sweet potatoes, leafy greens
Folate - leafy greens, broccoli
K - green tea, leafy greens,
broccoli, brussels sprouts

A - apricots, cantaloupe, mango,
peaches, watermelon
B₆ - avocados, bananas, watermelon
C - strawberries, kiwi, oranges, grapefruit,
cantaloupe
Folate - oranges, avocados

Fruit Group
2-4 Servings

B₁ - wheat germ, whole grains, enriched breads and cereals
B₂ - enriched breads and cereals
B₆ - whole-grain cereals
E - wheat germ
Folate - fortified grains, whole grains
K - cereals, whole grains
Niacin - whole wheat bread, enriched cereals

Bread, Cereal, Rice, & Pasta Group
6-11 Servings

* Beta carotene is found in fruits and vegetables. It is converted into vitamin A in the body.
Unlike vitamin A, which can be toxic in large doses, beta carotene is generally not toxic.
If you consume large amounts of beta carotene, your skin might turn yellow or orange, but this is harmless.

Food Combinations that Meet Dietary Requirements for Vitamins

Vitamin	Food Combinations
A	1 raw carrot; or 3/4 c. cooked broccoli & 1 peach
thiamin	2 oz. ham & 2 slices bread & 1/2 c. bran cereal & 1 c. black beans
riboflavin	2 c. milk & 1 oz. chicken liver & 1/2 oz. dry roasted almonds & 2/3 c. 100% bran cereal
B ₆	1/2 c. chickpeas & 3 1/2 oz. chicken & 1 carrot & 1/2 c. cauliflower & 1 banana
B ₁₂	2 c. milk; & 1 c. clam chowder
niacin	2 T. peanut butter & 2 slices enriched bread & 3 oz. tuna & 1/2 c. 100% bran cereal
C	1/2 c. orange juice; or 1/2 c. broccoli
folate	1/2 avocado & 1 orange & 1/2 c. black-eyed peas & 1/2 c. broccoli
D*	Needs are usually met through sunlight exposure. 2 c. vitamin D-fortified milk & 1 1/2 oz. canned sockeye red salmon will also meet the DRI
E	1 T. sunflower oil; or 1 T. peanut butter
K	1/2 c. raw broccoli; or 3 oz. beef liver; or 1/2 c. cooked peas

*Children and elderly who live in areas with less sunshine or stay indoors a lot might need additional amounts of vitamin D. If you have any questions, check with your physician.

c. = cup T. = tablespoon

Dietary Reference Intakes (DRIs)* for Vitamins

A	3,000 mcg	Niacin	16 mg
B₁	1.2 mg	Folate	400 mcg
B₂	1.3 mg	D	15 mcg
B₆	1.7 mg	E	15 mcg
B₁₂	2.4 mcg	K	120 mcg
C	90 mg		

mg = milligrams
mcg = micrograms

*DRIs are quantitative estimates of nutrient intakes for use in a variety of settings. They were developed by the Food and Nutrition Board of the National Academy of Sciences. The Daily Values seen on most food labels may be different until updated by the Food and Drug Administration.

Sources of Minerals in the Food Guide Pyramid

Fats, Oils, & Sweets
Use Sparingly

Magnesium -
chocolate

Milk, Yogurt, &
Cheese Group
2-3 Servings

Calcium - milk,
cheese, yogurt
Iodine - milk,
cheese
Potassium - milk,
milk products

Calcium - tofu,
canned fish
Chromium - meats
Copper - liver, nuts,
shellfish
Iodine - seafood, meats, eggs
Iron - red meat, legumes
Magnesium - nuts, legumes
Potassium - legumes, meats
Selenium - meat, seafood,
fish, nuts, eggs
Zinc - meat, soybeans, oysters

Meat, Poultry,
Fish, Dry Beans,
Eggs, & Nuts Group
2-3 Servings

Vegetable Group
3-5 Servings

Calcium - chinese cabbage,
turnip greens, kale
Iodine - potatoes
Iron - spinach, potatoes, chard
Magnesium - leafy greens
Potassium - chard, spinach,
potatoes, sweet potatoes,
tomatoes

Iron - dried fruit
Potassium - avocados, bananas,
dried fruits

Fruit Group
2-4 Servings

Chromium - whole grains
Copper - whole grains
Iodine - cereals, crackers
Iron - whole grains, enriched breads, wheat germ
Magnesium - wheat germ
Potassium - whole-grain cereals
Selenium - bran, whole grains, wheat germ
Zinc - wheat bran, wheat germ, whole grains

Bread, Cereal, Rice, & Pasta Group
6-11 Servings

Food Combinations that Meet Dietary Requirements for Minerals

Mineral	Food Combinations
Calcium	4 c. milk & 1 c. baked beans
Copper	1 c. baked beans & 1 T. blackstrap molasses & 1 oz. dry-roasted almonds
Iron*	1 c. black beans & 4 slices french bread & 1 c. cooked broccoli & 3 oz. beef roast & 1/2 c. cooked spinach
Magnesium	1 oz. 100% bran & 3 c. milk & 1 c. pinto beans & 2 T. peanut butter
Selenium	1 bagel and 2 oz. tuna
Zinc	3 1/2 oz. round steak & 3/4 c. raisin bran & 2 c. milk & 2 slices whole wheat bread & 1/4 c. dry-roasted soy nuts

*Absorption of iron from non-meat foods is increased by consuming a vitamin C-rich food at the same time.

c. = cup T. = tablespoon

Dietary Reference Intakes (DRIs)* for Minerals

Calcium	1,300 mg	Iodine	150 mcg
Copper	900 mcg	Selenium	55 mcg
Iron	18 mg	Zinc	11 mg
Magnesium	420 mg		
Chromium	35 mg		

mg = milligrams
mcg = micrograms

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CFS-157-W *Altering Recipes for Better Health*
<http://www.ces.purdue.edu/extmedia/CFS/CFS-157-W.pdf>

HG-252 *Food Guide Pyramid* (\$1.00)

CFS-707-W *Food Guide Pyramid 3-D Cutout*
<http://www.ces.purdue.edu/extmedia/CFS/CFS-707.pdf>

NCR-565-W *The New Look for Nutrition*
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These publications about the Food Guide Pyramid and other information about healthful diets are available from the Extension office in your county. Some also are available directly from the World Wide Web. You also can order publications from:
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